

UNITED STATES PATENT APPLICATION

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for

PERSONAL TABLE

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Cross-Reference to Related Applications

[001] This application claims priority to and the benefit of United States Provisional Patent Application Serial No. 60/421,221, filed October 25, 2002, entitled PERSONAL TABLE; U.S. Patent Application Serial No. 10/340,018, filed January 9, 2003, entitled PERSONAL TABLE; U.S. Design Patent Application Serial No. 29/176,792, filed February 26, 2003, entitled PORTION OF A TABLE TOP; U.S. Design Patent Application Serial No. 29/176,842, filed February 26, 2003, entitled TABLE TOP; and U.S. Design Patent Application Serial No. 29/176,841, filed February 26, 2003, entitled SUPPORT FOR A TABLE TOP. Each of these applications are expressly incorporated by reference in their entireties.

BACKGROUND OF THE INVENTION

Field of the Invention

[002] The present invention generally relates to tables and, in particular, to a light-weight table that may be adjustable in height and may have legs that can be moved between a extended or use position and a collapsed or storage position.

Description of Related Art

[003] Conventional tables are used for a variety of purposes and come in a wide array of designs. In some situations, it is desirable to have a smaller table for personal or individual use. For example, persons living in a small space, such as a studio apartment, may choose to use a smaller personal-sized table on which to dine or perform other tasks.

Other persons may use a personal table to place beside a chair for the convenience of holding objects while reading, watching television or listening to the radio. Still others may use personal tables to perform tasks such as writing, working, or using a computer.

[004] Conventional tables often include table tops constructed from wood, particle board or metal. Table tops constructed from wood, particle board or metal, however, are often relatively heavy and this may make the table awkward or difficult to move. Conventional table tops constructed from wood or metal are also relatively expensive and the table tops must generally be treated or finished before use. For example, table tops constructed from wood must generally be sanded and painted, and metal table tops must be formed into the desired shape and painted. In addition, these relatively heavy table tops increase the cost of transportation, shipping, and storage of the tables.

[005] In order to decrease the weight of conventional tables, table tops can be constructed from relatively thin, light-weight materials. Disadvantageously, these light-weight table tops frequently require reinforcing members or other structural parts such as brackets, support members and the like to strengthen the table top. These additional parts may increase the strength of the table top, but these additional parts also increase the weight of the table. In addition, these additional parts increase manufacturing costs and require additional time to assemble the table. Furthermore, these additional parts may have sharp edges that can injure the user's arms or legs.

[006] Known tables may also allow the height of the table to be adjusted to suit the needs of a particular user. For example, the length of the table legs may be increased or decreased by a telescoping assembly. Disadvantageously, because the telescoping assemblies include overlapping components, the assembly is relatively heavy. Additionally, conventional tables may use other mechanisms to allow the height of the table to be

adjusted, but these devices are often relatively complex and require additional parts, which generally increases the amount of time required to manufacture the table and the costs to assemble the table. These complex designs may also result in tables that are relatively difficult for the consumer to use and these tables may require a substantial amount of time in order for the height of the table to be adjusted.

[007] Another type of known table is a traditional card table in which each leg is pivotally connected to the table top by a brace and each leg individually folds against the table top. It is known to attempt to reduce the inconvenience of individually folding each of the legs against the table top by coupling two of the legs together by a long connecting rod. This may increase the stability of the table top and enable the user to simultaneously fold two legs into the collapsed position. The long connecting rods, however, may increase the cost of the table, reduce space under the table top, and the rods often easily break or become disconnected.

[008] Conventional tables may also detachably connect the legs to the table top to allow the user to more easily collapse, move and store the table. Disadvantageously, the detachable legs often create a table that is not sturdy or stable. Additionally, moving a table with this type of attachment when the legs are still attached is often difficult because the legs may undesirably detach. These known types of table may include an attachment that mechanically secures the leg to the table top. These mechanical attachments, such as plastic or metal clips or brackets, often break or are otherwise damaged. Further, attachment of these devices to the table top may structurally weaken the table top, which may allow the table to unexpectedly fail. Further, attaching multiple separate attachment mechanisms to the table top by fasteners such as screws or bolts may undesirably weaken the table top.

[009] Many conventional tables include four legs in order to support the table top above a surface such as the floor. The four separate legs, however, increase the weight of the table. In addition, the four legs require four separate attachment mechanisms to attach the legs to the table top, which increases the cost and complexity of the table. The four separate attachment mechanisms may also undesirably increase the weight of the table and require multiple mechanical fasteners such as screws and bolts to connect the attachment mechanisms to the table top.

SUMMARY OF THE INVENTION

[0010] A need exists for a table that eliminates the problems and other deficiencies found in convention tables.

[0011] One aspect of the present invention is a relatively small-sized table that is designed for use by a single person. This type of table that is intended for use by an individual is referred to as a personal table, but it will be appreciated that more than one person could use the table if desired. Advantageously, the personal table is relatively small and light-weight, which makes the table easy to move and transport. Significantly, because the table is sized and configured for personal use, it does not take up unnecessary space or provide a large amount of unused space. Therefore, the personal table provides ample space for a single user without requiring a large area or wasting unnecessary space.

[0012] Another aspect is a table that can be used for a wide variety of different situations and uses such as a table for supporting a television, computer, sewing machine, microwave, lamp, luggage, and the like. The table can also be used for a wide variety of other uses such as a bedside table, coffee table, night stand, desk, shop table, and the like. Further, the table can be used while performing a wide variety of tasks such as reading, writing, studying, working, etc. Thus, the personal table can be used in a number of different environments and it can perform numerous different tasks.

[0013] Still another aspect is a table that is suitable for use in a variety of situations and environments because it preferably provides ample space for a user, while at the same time being lightweight so as to enable the table to be moved from place to place with relative ease. Advantageously, the table can have different sizes and configurations depending upon the desired use of the table. The table may also have a larger size so that it can be used by more than one person at a time.

[0014] A further aspect is a table with a table top that is preferably constructed from a lightweight material so that the table is easily portable and can be readily lifted and moved by a single person. Desirably, the table top is constructed from blow-molded plastic, such as high density polyethylene. The blow-molded table top provides a rigid, high-strength structure that is capable of withstanding repeated use and wear. Advantageously, the blow-molded table top can be easily manufactured and formed into the desired size and shape.

[0015] Yet another aspect is a table in which the height of the table can be readily adjusted. Advantageously, the adjustable height table allows it to be used for many different purposes. For example, the height of the table may be adjusted to allow the table to be used as a desk, televisions stand, bedside table or end table.

[0016] A still further aspect is a table with a table top that is support by a single pair of legs. The legs are preferably pivotally connected and the legs preferably allow the height of the table top to be easily adjusted. Significantly, because the table top is support by a single pair of legs, that provides additional leg room and/or storage room under the table. In addition, the single pair of legs is light-weight and easily attached to the table top. The single pair of legs can desirably support the table top and any suitable objects placed on the table. Advantageously, because the personal table has a relatively small size, the single pair of legs can properly support the table.

[0017] Another aspect is a table with a table top that is supported by a single pair of legs and the legs are preferably pivotally connected by a pin, bolt or screw into a generally X-shaped configuration. The pivotal connection advantageously allows the legs to be quickly moved between the storage and use positions. The pivotal connection also allows the height of the table to be readily adjusted. Desirably, each leg includes a lower portion that contacts a support surface such as the floor, an elongated body portion, and an upper portion that is

sized and configured to be connected to the table top. The elongated body portion of each of the legs may include two or more support members, which helps prevent twisting or undesirable torque on the connection of the upper and lower portions to the elongated body portion.

[0018] Yet another aspect is a table in which the legs are attached to the underside of the table top and the legs are preferably offset from the center of the table. In particular, the legs are preferably positioned near an outer edge of the table top to provide enhanced legroom for the user. This also allows the table top to be positioned closer to the body of the user when the table, for example, is being used as a desk or for a writing surface. Advantageously, this may make the table more convenient for the user. In addition, the lower portion of the legs may form elongated feet that are used to create a stable base for the table top.

[0019] A still further aspect is a table with legs that are movable between a use position and a storage position. The legs preferably extend outwardly from the table top in the use position and the legs support the table top above a surface such as the floor. In the storage position, the legs are preferably collapsed into a relatively compact area, which allows the table to be easily transported or stored. The legs, for example, may be placed adjacent and/or proximate to the bottom surface of the table top in the collapsed position. Advantageously, the collapsed legs may facilitate stacking of the tables and decrease the space required to store or ship the tables.

[0020] A further aspect is a table that is adjustable in height according to the needs of the user. For example, the bottom surface of the table top may include a plurality of leg receiving recesses that are sized and configured to selectively receive a portion of at least one of the legs. The leg or legs can be readily moved from one leg receiving recess to

another leg receiving recess to allow the height of the table to be adjusted. In particular, the leg receiving recesses are preferably positioned into two or more generally aligned pairs of openings or receiving portions disposed on the underside of the table top. Preferably one of the pairs of generally aligned receiving portions is positioned proximate an edge of the table top and another of the pairs of generally aligned receiving portions is positioned proximate the center portion of the table top. The ends of the upper portion of the legs can then be selectively inserted and removed from the two or more generally aligned pairs of receiving portions to allow the height of the table to be adjusted. Advantageously, by inserting the upper portion of the legs into different pairs of receiving portions, the height of the table top can be readily adjusted. In addition, one or both of the legs can be detached from the table top to allow the table to be stored. Significantly, the readily adjustable legs provides increase flexibly and a variety of uses for the personal table. For example, the table can be positioned at a desired height for eating, watching television, or supporting items next to a chair. The table can also be quickly and easily folded into a storage position.

[0021] Yet another aspect is a personal table with legs that can be attached to receiving portions formed in the table top. In particular, the legs receiving portions may include generally aligned pairs of leg receiving recesses and the ends of the upper portions of the legs may be inserted into the generally aligned pairs of leg receiving recesses. Desirably, the length of the upper portion of one or both of the legs is adjustable to allow the upper portion of the leg to be inserted and removed from the generally aligned pairs of leg receiving recesses.

[0022] A further aspect is a table with a frame and the frame preferably includes two generally parallel side rails. Each of the side rails preferably includes at least two pairs of generally aligned openings or apertures. The leg or legs can be readily moved from one pair

of generally aligned openings to another pair of generally aligned openings to allow the height of the table to be adjusted. Preferably one of the pairs of generally aligned openings is positioned proximate an edge of the table top and another of the pairs of generally aligned openings is positioned proximate the center portion of the table top. The ends of the upper portion of the legs can then be selectively inserted and removed from the two or more generally aligned pairs of openings to allow the height of the table to be adjusted. Advantageously, the openings in the frame can be used in conjunction with leg receiving recesses, if desired.

[0023] Another aspect is a table in which one or both legs may be selectively detached from the table top to allow the legs to be moved from an extended to a collapsed position. In addition, the selective detachment of one or both of the legs may allow the height of the table to be easily adjusted by attaching the legs to different leg receiving recesses. One of the legs may also be permanently attached to the table top.

[0024] A still further aspect is a table that can have a variety of suitable sizes and configurations. In addition, the table can be manufactured to have one of several combinations of adjustable height settings. Thus, the table can be optimized for a specific use, or the table can be easily adjustable for a variety of different uses.

[0025] Advantageously, the table is relatively simple to manufacture because it preferably consists of a table top constructed from blow-molded plastic and a pair of pivotally interconnected legs. The blow-molded table top includes two opposing walls that are spaced apart, which increase the strength and rigidity of the table top. The blow-molded table top may also include one or more depressions or tack-offs to further increase the strength of the table top and/or interconnect the spaced apart walls. Significantly, the blow-molded table top is light-weight, durable, generally weather resistant and temperature

insensitive, and it does not corrode, rust or otherwise deteriorate. The blow-molded table top can also be formed in various shapes, sizes, configurations and designs.

[0026] Additionally, the table is easy to assemble, which reduces manufacturing and labor costs. Further, the consumer can easily assemble the personal table and the consumer will appreciate many of the aspects of the personal table such as the light-weight, easy height adjustment, portability, sturdiness, and wide variety of uses in any different environments.

[0027] These and other aspects, features, and advantages of the present invention will become more apparent from the following detailed description of preferred embodiments and appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0028] The appended drawings contain figures of preferred embodiments of the personal table. The above-mentioned aspects, features and advantages of the personal table, as well as other aspects, features and advantages, will be described in connection with the preferred embodiments. It is appreciated that these drawings depict only certain preferred embodiments of the invention and are therefore not to be considered limiting of its scope. The invention will be described and explained with additional specificity and detail through the use of the accompanying drawings in which:

[0029] Figure 1 is a rear perspective view of a personal table in accordance with an embodiment of the present invention;

[0030] Figure 2 is a front perspective view of the personal table in accordance with another embodiment of the present invention;

[0031] Figure 3 is a bottom perspective view of a portion of the personal table shown in Figure 1, illustrating the bottom surface of the table top;

[0032] Figure 4 is a bottom view of the bottom surface of the personal table shown in Figure 3;

[0033] Figure 5 is a perspective view of a portion of the personal table shown in Figure 1, illustrating the frame;

[0034] Figure 6 is a top view of the frame of the personal table shown in Figure 5;

[0035] Figure 7 is a left side view of the frame of the personal table shown in Figure 5;

[0036] Figure 8 is a right side view of the frame of the personal table shown in Figure 5;

[0037] Figure 9 is a front view of the frame of the personal table shown in Figure 5;

[0038] Figure 10 is a bottom view of the frame of the personal table shown in Figure 5;

[0039] Figure 11 is a bottom perspective view of the personal table shown in Figure 1, illustrating the legs in an extended position; and

[0040] Figure 12 is a bottom perspective view of the personal table shown in Figure 1, illustrating the legs in a collapsed position.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

[0041] The present invention is directed towards a table and, in particular, to a table that is intended to be used by a single user at one time. The principles of the present invention, however, are not limited to a table intended for use by an individual user. It will be understood that, in light of the present disclosure, the table can be used by more than one user at any given time.

[0042] Additionally, to assist in the description of the table, words such as top, bottom, front, rear, right and left are used to describe the accompanying figures. It will be appreciated, however, that the table can be located in a variety of desired positions--including various angles, sideways and even upside down. A detailed description of the table now follows.

[0043] As seen in Figure 1, an exemplary table 10 is shown. The table 10 is preferably a relatively small-sized table that is intended for use by a single person at one time. Advantageously, because the table 10 is sized and configured for personal use, it does not require a large amount of space. Therefore, the table 10 provides ample space for a single user without requiring a large area or unnecessary space. This table 10 that is sized and configured for use by a single person is referred to as a personal table.

[0044] The personal table 10 includes a table top 12 and a support assembly 14 that is used to support the table top above a surface such as the floor or ground. The table top 12 includes a top 16, bottom 18, front 20, rear 22, right side 24 and left side 26. The table top 12 may also include a beveled, sloped or rounded surface disposed between the top surface 16 and one or more of the sides 20, 22, 24 and 26. The beveled surface may be sized and configured to increase the comfort and safety of the user. The beveled surface, for example, may be larger along the front 20 of the table top 12, but it will be appreciated that the table 10 does not require a beveled surface.

[0045] As shown in Figure 1, the table top 12 preferably has a generally rectangular configuration with rounded corners and slightly rounded outer edges or sides 20, 22, 24, and 26. Desirably, the table top 12 is about thirty (30) inches in length and about twenty (20) inches in width, but one skilled in the art will appreciate that the table top can have other suitable sizes and configurations. For example, the table top 12 may be larger or smaller and the table top can have other configurations such as square, circular, oval, and the like depending, for example, upon the intended use of the table 10. In addition, the corners and edges of the table top 12 do not have to be rounded and, in contrast, the corners and edges could have any desirable configuration, but the rounded features may increase the comfort and/or safety of the user.

[0046] Advantageously, the table 10 can be used for a wide variety of purposes and in a number of different environments. For instance, the table 10 can be used as a television stand, computer table, sewing table, bedside table, coffee table, microwave stand, desk, shop table, luggage stand and the like. In addition, the table 10 can be used for working, reading, writing and other suitable uses. Accordingly, the table 10 is capable of many different uses and it is preferably sized and configured to be used by a single person at one time. The table 10, as discussed in more detail below, is preferably sized and configured to support one or more objects related to these different tasks and uses. For example, the table 10 is desirably configured to support a television, computer, books, or luggage according to its intended use by the individual user.

[0047] The table top 12 is preferably constructed from a lightweight material and, more preferably, the table top is constructed from plastic, such as high density polyethylene. The plastic table top 12 is desirably formed by a blow-molding process because, for example, it allows a strong, lightweight, rigid and sturdy table top to be quickly and easily

manufactured. Advantageously, the blow-molded plastic table top 12 has a lighter weight than conventional table tops constructed from wood or metal, and the blow-molded plastic table top can be constructed from less plastic than conventional plastic table tops, which may save manufacturing costs and reduce consumer costs. In particular, the blow-molded table top 12 can be manufactured with thin plastic walls and that allows the table top to cool faster during the manufacturing process, which decreases the manufacturing time. Further, the blow-molded plastic table top 12 can be constructed with any suitable shape, configuration, size, design and/or color depending, for example, upon the intended use of the table 10. For example, the table top 12 can be constructed with a generally rectangular configuration of about eighteen by about twenty-four inches (18 x 24), a table top with a generally circular configuration with a diameter of about twenty inches (20) or a table top with a generally square configuration with twenty-four inch (24) sides may be easily formed during the blow-molding process. Of course, it will be appreciated that the blow-molded table top 12 can have any suitable size and configuration depending, for example, upon the intended use of the personal table 10.

[0048] The table top 12 is preferably constructed from blow-molded plastic because blow-molded plastic table tops are durable, weather resistant, generally temperature insensitive, corrosion resistant, rust resistant, and generally do not deteriorate over time. One skilled in the art, however, will appreciate that the table top 12 does not have to be constructed from blow-molded plastic and other suitable materials and/or processes can be used to construct the table top depending, for example, upon the intended use of the personal table 10. Thus, the table top 12 could be constructed from other materials with suitable characteristics, such as wood, metal and other types of plastic. Additionally, the table top 12

does not have to be constructed from blow-molded plastic and it could be constructed from injection molded plastic, extrusion molded plastic, and the like.

[0049] As shown in Figure 1, the top 16 and bottom 18 surfaces of the table top 12 are spaced apart a given distance and these two spaced apart surfaces help create a rigid and strong table top 12. Additionally, the top and bottom surfaces 16, 18 may be interconnected by one or more depressions or other reinforcement structures and these structures may be sized and configured to increase the strength and/or rigidity of the table top 12. Advantageously, these depressions and/or other reinforcement structures can be integrally formed in the table top 12 as part of a one-piece structure, for example, during the blow-molding process.

[0050] As best seen in Figures 3 and 4, the bottom 18 of the table top 12 may include a recessed center section 27. The recessed center portion 27 may cover substantially the entire bottom 18 of the table top 12, or the recessed center portion 27 may cover only a portion of the bottom of the table top. One skilled in the art will appreciate that the table top 12 does not require the recessed center section 27. The table top 12 may include one or more generally planar portions 28 that allow instructions, warnings, safety labels, manufacturer information, operating instructions and other information to be attached to the table top. In addition, the bottom 18 of the table top 12 may include a lip 29. The lip 29 is preferably disposed about the outer edges or perimeter of the table top 12 and the lip is preferably integrally formed with the table top 12 as part of a one-piece structure. For example, the lip 29 could include a hollow interior portion that is formed during the manufacturing process and the hollow interior portion may be in direct communication with a hollow interior portion of the table top 12. The lip 29, however, could also be a separate structure that is attached to the table top 12 and the lip could be disposed inwardly from the outer edges or

perimeter of the table top. It will be appreciated that the lip 29 could have other suitable arrangements and configurations, and the table 10 does not require the lip.

[0051] As discussed above, the support assembly 14 is used to support the table top 12 above a surface such as the ground or floor. As shown in Figures 5-9, an exemplary embodiment of the support assembly 14 includes a first leg 30a and a second leg 30b. The first leg 30a and the second leg 30b preferably each include a lower portion 32a, 32b, a body portion 34a, 34b, and an upper portion 36a, 36b, respectively. The lower portion 32a, 32b of each of the legs 30a, 30b is preferably sized and configured to contact the ground or floor. Desirably, the lower portion 32a, 32b is an elongated member that has a length slightly less than the width of the table top 12 to provide a relatively stable base, but the elongated member could be longer or shorter. As shown in the accompanying figures, the lower portions 32a, 32b are preferably hollow tubes that are lightweight and easy to manufacture, and the tubes are preferably constructed from metal but any suitable materials may be used to construct the lower portions of the legs. End caps 42 may be attached to the ends of the lower portions 32a, 32b to prevent foreign objects from entering the hollow tubes and the end caps may provide a non-skid and non-marking surface. The end caps 42 may also be sized and configured to assist in moving the table 10, if desired. It will be understood, however, that neither the lower portions 32a, 32b or end caps 42 are required.

[0052] As shown in the accompanying figures, the lower portions 32a, 32b of the legs 30a, 30b are preferably positioned generally parallel to each other to provide a stable base for the personal table 10 that resists tipping. It will be appreciated, however, that the lower portions 32a, 32b could have any desirable size, configuration or design depending, for example, upon the intended use of the personal table 10. For example, the lower portions 32a, 32b could have a triangular, square, rectangle, generally planar or other suitable shape

and configuration, and the support members could have any suitable width and length depending, for example, upon the intended use of the table 10.

[0053] The body portions 34a, 34b of the legs 30a, 30b preferably consist of one or more elongated members that are used to support the table top 12 above a surface such as the ground or floor. It will be appreciated that the lengths of the body portions 34a, 34b of the legs 30a, 30b are preferably the same so that the table top 12 is supported in a generally horizontal position relative to the support surface and the length of the body portions may help determine the overall height of the table 10. The body portions 34a, 34b of each leg 30a, 30b are preferably constructed from generally hollow members, such as hollow metal tubes, which are lightweight and easy to manufacture, but the body portions may have any desired sizes and/or configurations. The ends of the body portions 34a, 34b are preferably securely connected to the lower portions 32a, 32b of the legs 30a, 30b by welding or other suitable means.

[0054] As best seen in Figures 5-7, the body portions 34a, 34b of the legs 30a, 30b may include two separate elongated support members 40a, 40b. Advantageously, body portions 34a, 34b constructed with two separate elongated support members 40a, 40b may help prevent twisting or torque on the connection of the body portions to the lower portions 32a, 32b of the legs 30a, 30b. Additionally, the two separate elongated support members 40a, 40b of the body portions 34a, 34b may be curved or spaced apart. In particular, the upper and lower portions of the body portions 34a, 34b may be spaced apart to facilitate connection of the body portions to the lower portion 32a, 32b, which may create a more secure connection.

[0055] As best seen in Figures 5 and 7, the upper and lower portions of the body portions 34a, 34b are preferably curved outwardly and away from each other. The middle

portions of the body portions 34a, 34b are preferably curved or arched towards each other to allow the body portions to be connected. Desirably, the body portions 34a, 34b are pivotally connected to allow the legs 30a, 30b to move relative to each other. The legs 30a, 30b are connected at a connection point 44 by a connector such as a bolt, pin, screw or other type of suitable fastener 46. Desirably, the legs are curved together towards the connection point 44 to decrease the length of the fastener 46. In addition, the connection point 44 may be disposed closer to the table top 12 than the lower portions 32a, 32b of the legs 30a, 30b, but the legs may be connected at any desired point. It will be appreciated that the legs 30a, 30b may also be slidably or otherwise movably attached. It will also be appreciated that the body portions 34a, 34b may include only a single elongated support member 40a, 40b, or more than two elongated support members if desired.

[0056] As best seen in Figure 5, for example, the upper portions 36a, 36b are attached to the body portions 34a, 34b of the legs 30a, 30b. The upper portions 36a, 36b preferably have generally the same size and size, and the upper portions are desirably constructed from hollow metal tubes. The hollow tubes preferably have a generally circular configuration, but the tubes may also be oval, oblong, square, rectangular or have other suitable configurations. The upper portions 36a, 36b, however, do not have to be constructed from hollow metal tubes and the upper portions may also be constructed from other suitable components and materials with the appropriate sizes and configurations depending, for example, upon the intended use of the table 10 or the type of connection of the .

[0057] The upper portions 36a, 36b of the legs 30a, 30b are preferably sized and configured to be received within leg receiving recesses 50. The leg receiving recesses 50 may be disposed within a frame 52 and/or openings 54 formed within the table top 12. The leg receiving recesses 50 preferably have generally the same size and configuration, which

allows the upper portions of the legs to be interchangeably attached to the table top 12. This may allow the height of the table 10 to be readily adjusted according to which leg receiving recesses 50 the legs 30a, 30b are attached. One skilled in the art will appreciate that latches, tabs, locking members, clips, fasteners or other suitable devices may be used to retain the upper portions 36a, 36b of the legs 30a, 30b in the leg receiving recesses 50.

[0058] The leg receiving recesses 50 may include one or more openings 56 formed in a frame 52. The frame 52 may include two side rails 60a, 60b that preferably extend at least a majority of the length of the table top 12. The side rails 60a, 60b are preferably generally parallel disposed and located proximate opposing edges of the table top 12. Advantageously, the side rails 60a, 60b may be connected to the lip 29 or other suitable portions of the table top 12. The frame 58 is preferably constructed from a relatively sturdy material such as metal and the openings 56 are preferably sized and configured to receive the ends of the upper portions 36a, 36b of the legs 30a, 30b.

[0059] The leg receiving recesses 50 may also include one or more openings 54 formed in the table top 12. In particular, the openings 54 are preferably formed in an inner surface of the lip 29. The openings 54 may be integrally formed while the table top 12 is being constructed, such as during the blow-molding process, or the openings may be formed after the table top is constructed, such as by drilling, boring or punching. The openings 54 may simply comprise apertures formed in the lip 29 or the openings may comprise recesses, alcoves, indentations, depressions and the like formed in the lip or other suitable portions of the table top 12.

[0060] Desirably, the leg receiving recesses 50 include both the openings 56 in the frame 52 and the openings 54 in the table top 12. In particular, the openings 56 in the frame 52 and the openings 54 in the table top 12 are preferably aligned to allow the upper portions

36a, 36b of the legs 30a, 30b to be inserted and removed from the leg receiving recesses 50, as desired. It will be appreciated, however, that the leg receiving recesses 50 may also comprise either the openings 56 in the frame 52 or the openings 54 in the table top 12. Whether the upper portions 36a, 36b of the legs 30a, 30b are inserted into the openings 56 in the frame 52 and/or the openings 54 in the table top 12, the legs are preferably securely connected to the table top 12 to create a stable and sturdy table 10.

[0061] The leg receiving recesses 50 are preferably disposed into at least two pairs of generally aligned recesses disposed proximate opposing sides of the table top 12. In particular, as shown in the accompanying figures, an exemplary embodiment of the table 10 includes four pairs of generally aligned leg receiving recesses 50 disposed near one end of the table top 12. The table 10 may also include one or more leg receiving recesses 50 disposed near the other end of the table top 12. As discussed in greater detail below, one of the legs 30a, 30b is preferably selectively attached to the leg receiving recesses 50 disposed near one end of the table top 12 and the other leg is preferably securely attached to the leg receiving recesses disposed near the other end of the table top 12. It will be understood, however, that either or both of the legs 30a, 30b may be securely or selectively attached to the leg receiving recesses 50.

[0062] Additionally, the leg receiving recesses 50 can be formed with or without the frame 52. Thus, while the table 10 is preferably constructed with the frame 52, the frame is not required. Additionally, while the frame 52 may be sized and configured to increase the strength and rigidity of the table top 12, the frame may simply be used to help align the upper portions 36a, 36b of the legs 30a, 30b with the leg receiving recesses. The frame 52 may also be provided for aesthetic or cosmetic reasons.

[0063] The bottom 18 of the table top 12 may include one or more guide members 62 that are preferably sized and configured to help guide the upper portions 36a, 36b of the legs 30a, 30b into the leg receiving recesses 50. The guide members 62 may flex or bend slightly to allow the upper portions 36a, 36b of the legs 30a, 30b to be inserted and removed from the leg receiving recesses. The guide members 62 may also extend all or a portion of the distance between opposing leg receiving recesses 50 and the guide members may be divided into one or more parts, if desired. For example, as shown in Figures 3 and 4, the guide members 62 are divided into three discrete sections and four guide members are used to help align and position the upper portions 36a, 36b of the legs 30a, 30b within the four leg receiving recesses 50 disposed towards one end of the table top 12. It will be appreciated that any suitable number and arrangement of guide members 62 may be utilized and that the leg receiving recesses 50 do not require the use of the guide members 62 to guide the upper portions 36a, 36b of the legs 30a, 30b into the leg receiving recesses.

[0064] The guide members 62 preferably include a hollow interior portion that is formed during the manufacturing process. In addition, the guide members 62 are preferably formed during the manufacturing process as part of an integral, one-piece table top 12. The guide members 62, however, could comprise separate components that are attached to the table top 12. Moreover, the guide members 62 do not have to be formed during the manufacturing process and the guide members can be formed by any suitable means, methods or processes.

[0065] The legs 30a, 30b are desirably sized and configured to be connected to any of the desired plurality of leg receiving recesses 50. In particular, one or both of the legs 30a, 30b may be sized and configured to be quickly and easily connected and/or disconnected to any desired leg receiving recesses 50. This may allow the legs 30a, 30b, which are preferably pivotally connected, to pivot or scissor back and forth with respect to one another

at a wide variety of angles. This pivotal connection allows the legs 30a, 30b to be quickly and easily positioned so that the legs can be connected to the desired leg receiving recesses 50 in the table top 12. This pivotal connection also allows the legs 30a, 30b to be moved between a first or extended position, as shown in Figure 11, and a second or collapsed position, which is shown in Figure 12. The legs 30a, 30b desirably fold generally flat and/or adjacent to each other in the second or collapsed position to allow the table 10 to be easily stored or transported.

[0066] In greater detail, one or both of the upper portions 36a, 36b of the legs 30a, 30b may be adjustable in length to allow the legs to be selectively connected to the leg receiving recesses 50. For example, the length of the upper portion 36a, 36b of either or both of the legs 30a, 30b may be adjustable to allow the legs to be removably inserted into the leg receiving recesses 50. Thus, the length of the upper portion 36a, 36b of the legs 30a, 30b may be moved between a first or reduced length position in which the upper portions of the legs may be readily inserted into a desired pair of leg receiving recesses 50 and a second or extended length position in which the legs can be disposed within a desired pair of leg receiving recesses.

[0067] As best seen in Figures 5-8, the upper portion 36b of the leg 30b may include an opening 64 and a length adjusting member 66 may be disposed within the opening. The length adjusting member 66 may have an elongated body 68 that is disposed within the opening 64. The length adjusting member 66 desirably allows the length of the upper portion 36b of the leg 30b to move between the first or reduced length position and the second or extended length position. The length adjusting member 66 is preferably biased to maintain the upper portion 36b of the leg 30b in the second position. A spring or other resilient member may be used to bias the upper portion 36b of the leg 30b in the second

position. It will be appreciated that other means may be used to bias the upper portion 36b of the leg 30b into the second position.

[0068] A trigger mechanism 69 may be used to assist in adjusting the length of the upper portion 36b of the leg 30b. For example, a user may grasp the trigger 69 and apply a force on the trigger that overcomes the biasing force of the length adjusting member 66 to allow the length of the upper portion 36b of the leg 30b to be adjusted. In particular, one end of the length adjusting member 66 may be fastened to one end of the upper portion 36b of the leg 30b and the other end of the length adjusting member may be freely disposed within the other end of the upper portion of the leg. When a user applies a force to the trigger, the ends of the upper portion 36b of the leg 30b may be pulled together, which reduces the length of the upper portion, and allows it to be selectively positioned within a desired pair of leg receiving recesses 50. It will be appreciated that the length of the upper portions of the legs may be adjusted by any suitable method or manner. Advantageously, when the upper portions 36a, 36b of the legs 30a, 30b are inserted into the leg receiving recesses 50 and the upper portions are in the extended length position, the legs are securely connected to the table top¹².

[0069] As shown in the accompanying figures, only the second leg 30b is selectively connected to the leg receiving recesses 50 and is adjustable in length. The first leg 30a is preferably securely connected to the leg receiving recesses 50 and it not adjustable in length. Thus, the first leg 30a is preferably connected to the leg receiving recesses 50 during the manufacturing process and it is generally not removable from the leg receiving recesses. It will be appreciated, however, that the first leg 30a may also be selectively connected to the leg receiving recesses, if desired.

[0070] An opening 70 may be formed in the bottom 18 of the table top 12 to receive at least a portion of the legs 30a, 30b in the collapsed position. As seen in Figures 1-4, the opening 70 is preferably disposed in the lip 29 and the opening is preferably sized and configured to allow at least a portion of the legs 30a, 30b to extend through the opening when the legs are in the collapsed position. This allows the legs 30a, 30b to be disposed generally adjacent to the bottom surface 18 of the table top 12 when the legs are in the collapsed position, which may reduce the required amount of storage space for a table and may facilitate stacking of the tables.

[0071] The legs 30a, 30b may be retained in the collapsed position in the opening 70 by one or more tabs that are located near an edge of the table top 12. The tabs may secure the legs 30a, 30b in the collapsed position by a friction, snap or interference fit. For example, the tabs may extend over a portion of the opening 70 and the tabs may deform or deflect to allow the legs 30a, 30b to be received or removed from the opening. The tabs may include a generally hollow interior portion and the tabs may be formed during the manufacturing process as part of an integral, one-piece structure. One skilled in the art will understand that clips, fasteners and other types of devices may be used to secure the legs 30a, 30b in the collapsed position. For example, as best seen in Figures 3 and 4, one or more clips 72 may be used to secure the legs 30a, 30b in the collapsed position. Desirably, the clips 72 selectively hold the legs 30a, 30b by a friction, interference or snap fit, but any suitable type of clips, connectors or fasteners may be used to retain the legs in the collapsed position. The legs 30a, 30b, however, do not have to be held in the collapsed position.

[0072] As seen in Figures 3 and 4, a center portion 74 may be disposed within the opening 70 and the center portion may be sized and configured to be inserted within a portion of the legs 30a, 30b when the legs are in the collapsed position. If desired, the center

portion 74 may be sized and configured to help secure the legs in the collapsed position. The center portion 74, however, may also be for aesthetic or design reasons. As shown in Figures 1 and 2, a center portion 74 does not have to be disposed within the opening 70.

[0073] The pivotal connection of the legs 30a, 30b and the plurality of leg receiving recesses 50 allows the height of the personal table 10 to be easily adjusted. As described in more detail below, the user can select which leg receiving recesses 50 receive either or both of the legs 30a, 30b and this allows the desired height to be selected. For example, it will be appreciated that if the legs 30a, 30b are attached to two leg receiving recesses 50 that are close together, the table 10 will have a given height. However, if the legs 30a, 30b are attached to two leg receiving recesses 50 that are farther apart, then the table 10 will have a lower height.

[0074] Additionally, the legs 30a, 30b can desirably be quickly and easily moved between the extended and collapsed positions. For example, if the support legs 30a, 30b are completely disengaged from table top 12, then the legs 30a, 30b can be folded into the collapsed position for storage. Alternatively, one or more of the legs 30a, 30b may be attached to the table top 12 when the legs in the collapsed position. Thus, a variety of different configurations are contemplated when table 10 is collapsed, including: (1) the support assembly 14 is completely disengaged from table top 12; (2) at least a portion of support assembly is connected to the table top while another portion of the support assembly is disconnected from the table top; and (3) at least a portion of support assembly is permanently coupled to table top.

[0075] The support assembly 14 is preferably configured to maximize the legroom for the user when table 10 is in an upright position. For example, as shown in Figures 1-2, the body portions 34a, 34b are not centered with the lower portions 32a, 32b or upper portions

36a, 36b of legs 30a, 30b. Instead, the body portions 34a, 34b are disposed towards an end of the lower portions 32a, 32b and upper portions 36a, 36 of legs 30a, 30b. Thus, when the table top 12 is coupled to the support assembly 14, as shown in Figure 1 for example, the body portions 34a, 34b are located proximate the rear 22 of the table top 12. Therefore, when the user is seated at front 20 of table 10, the body portions 34a, 34b of the legs 30a, 30b are positioned farther away from the user so as to avoid impeding the user's space.

[0076] In particular, because the body portions 34a, 34b of the legs 30a, 30b are positioned near the rear 22 of table top 12, the user can slide the table 10 closer to their body. This allows the user to position the table top 12 in a desired position while still maintaining adequate legroom underneath the table 10. Thus, it can be seen that table 10 facilitates the ergonomic comfort of the user by reducing the need of the user to lean forward over the table in order to perform a particular task, such as reading or crafting. The offset body portions 34a, 34b also allow the user to slide a chair under the table 10 such that the support assembly 14 does not generally interfere with the chair. It will be appreciated, however, that the body portions 34a, 34b may be located in any suitable relation to the lower portions 32a, 32b and/or upper portions 36a, 36b of the legs 30a, 30b.

[0077] As seen in Figures 3 and 4, for example, a plurality of depressions 76 may be formed in the bottom 18 of the table top 12. The depressions 76 are preferably sized and configured to provide additional structural support and integrity to table top 12. The depressions 76 may cover a substantial portion of the bottom 18 of the table top 12 or the depressions may cover only a portion of the bottom of table top. The depressions 76 may also be located in the lip 29, guide members 62 and/or opening 70, if desired. Alternatively, the table top 12 can be constructed without any depressions 76. In addition, while the

depressions 76 are preferably located in the bottom 18, it will be appreciated that depressions may also be formed in any desired portion of the table top 12.

[0078] As shown in Figures 3 and 4, the depressions 76 may be formed in an array. The depressions 76 in the array may be located in a staggered, geometric, random or other suitable pattern. Additionally, the depressions 76 may extend from one surface to an opposing surface such that an end of the depression contacts or engages the opposing surface. The depressions 76 may also extend only a portion of the distance between the opposing surfaces. For example, the depressions 76 may extend from the bottom 18 to the top 16, but the depressions may also extend only a portion of the distance between the bottom and top portions of the table top 12.

[0079] The depressions 76 may be designed to increase the strength and structural integrity of the table 12. While it was previously believed that stronger structures were provided by making the walls thicker and/or adding structures such as ribbing, the depressions 76 may provide the surprising and unexpected result that an increased number of depressions may provide a stronger structure and/or thinner walls may be used to construct the structure. Surprisingly, the depressions 76 may increase the structural integrity of the structure despite forming disruptions in the continuity of bottom portion 18 of the table top 12, and less plastic can be used to make the structure even though the plurality of depressions are formed in the structure. The costs of manufacturing and transportation may be decreased because thinner plastic walls may be used to construct the table top 12, which may create a lighter weight table 10.

[0080] Additionally, when blow-molded structures are formed, a certain amount of time must elapse before the structure can be removed from the mold. Blow-molded structures with thicker walls require a longer cooling time than structures with thinner walls. The

depressions 76, however, may allow table tops with thinner plastic walls to be constructed and that reduces the cooling time before the structure can be removed from the mold. Significantly, a reduced cycle time may increase the efficiency of manufacturing process. In addition, because less plastic is required, the cost of the table 10 may be reduced.

[0081] The leg receiving recesses 50, openings 54, guide members 62, opening 70 and/or depressions 76 may be formed integrally with table top 12 during the manufacturing process as part of a one-piece structure. For example, one or more of these features may be formed during a blow-molding process. Advantageously, this allows a strong, lightweight structure to be created. It will be appreciated, however, that these features do not have to be formed as part of a unitary structure and these features can be formed separately or after the manufacturing process.

[0082] As best seen in Figure 11, the first leg 30a is preferably selectively connected to any suitable receiving recess 50 disposed near the one side of the table top 12 and the second leg 30b is preferably securely connected to the table top in a generally fixed position. Because the first leg 30a is selectively connected to any suitable receiving recess 50, the height of the table 10 to be adjusted. For example, if the first leg 30a is connected to the receiving recess 50 disposed proximate the center of the table top 12, then the table 10 will have a first height such as twenty-eight inches. On the other hand, if the first leg 30a is connected to the receiving recess 50 disposed proximate the right side 24, then the table 10 will have a second height such as twenty-one inches. Of course, the first leg 30a could also be connected to one of the other receiving recesses 50 to create a table 10 with a height such as twenty-four or twenty-six inches. It will be appreciated that the table 10 could be sized and configured to have any suitable height and the table may include any desired number of receiving recesses 50 to allow the height of the table to be adjusted. While the first leg 30a

is preferably selectively connected to the table top 12 and the second leg 30b is preferably securely connected to the table top 12, it will be appreciated that the second leg may be selectively connected to the table top and the first leg may be securely connected to the table top. It will also be appreciated that the first and second legs 30a, 30b may be selectively secured to the table top 12 if desired.

[0083] In order to use the table 10 shown in Figures 11 and 12, the second leg 30b is securely connected to the table top 12 and the first leg 30a is selectively connected to the table top. In particular, the first leg 30a is selectively connected to any of the desired leg receiving recesses 50 according to the desired height of the table. In order to adjust the height of the personal table 10, the first leg 30a may be removed from its leg receiving recesses 50 and inserted into another desired leg receiving recess. In order to collapse the table 10, the first leg 30a is removed from its leg receiving recess 50 and the legs 30a, 30b are positioned in the collapsed position shown in Figure 12. Advantageously, the legs 30a, 30b may extend through the opening 70 and the clips 72 may retain the legs in the collapsed position. When it is desired to use the table 10, the legs 30a, 30b are removed from the opening 70 and the first leg 30a is inserted into the desired leg receiving recesses 50. It will be appreciated that the entire support assembly 14 can be removed if both legs 30a, 30b are both selectively attached to the table top 12.

[0084] It will be appreciated that the leg receiving recesses 50 may also be disposed along the width of table top 12. That is, the leg receiving recesses 50 may be disposed proximate the right and left sides 24, 26 of the table top 12. Advantageously, this may provide additional uses for the personal table 10. Further, if desired, the leg receiving recesses 50 may be disposed along the length and/or width of the table top 12 depending, for example, upon the intended use of the table 10.

[0085] From the foregoing description, the leg receiving recesses 50 allow the personal table 10 to be readily adjusted to various suitable heights. For example, the personal table 10 may be configured to have a maximum height, an intermediate height, and a minimum height. Thus, the table 10 may be configured to have a height that enables a user to stand and utilize the table, a height that is generally equal to the height of a counter top, and/or a height that enables the user to be seated at the table. Additionally, the height of the table 10 may be adjusted according to the desired use of the table. For example, the height of the table may be adjusted to allow the table to be used by children, or the table may have a height which allows it to be used as a television tray or table. Significantly, the various heights of table 10 can be predetermined and designed for any suitable purpose. This provides great flexibility and a wide variety of uses for table 10.

[0086] Significantly, the various heights of the table can be predetermined and designed for any suitable purpose. This provides great flexible and a wide variety of uses for the table. Further, the legs can be connected to the table top by any suitable type of support structure.

[0087] Although this invention has been described in terms of certain preferred embodiments, other embodiments apparent to those of ordinary skill in the art are also within the scope of this invention. Accordingly, the scope of the invention is intended to be defined only by the claims which follow